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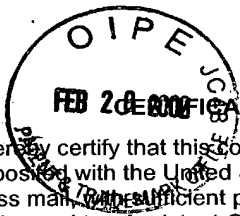
JC10 Rec'd PCT/PTO 02 NOV 2001

FORM PTO-1390 (REV. 5-93)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	CASE NO.
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5) 10/031863
INTERNATIONAL APPLICATION NO. PCT /SE/00/00836	INTERNATIONAL FILING DATE May 3, 2000	PRIORITY DATE CLAIMED May 4, 1999	
TITLE OF INVENTION OPERATION DEVICE			
APPLICANT(S) FOR DO/EO/US Olle Olsson			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<p>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371</p> <p>3. <input type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</p> <p>4. <input type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)).</p> <p> a. <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</p> <p> b. <input type="checkbox"/> has been transmitted by the International Bureau.</p> <p> c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</p> <p>6. <input type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</p> <p>7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p> a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</p> <p> b. <input type="checkbox"/> have been transmitted by the International Bureau.</p> <p> c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</p> <p> d. <input type="checkbox"/> have not been made and will not be made.</p> <p>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)) and/or amendments under Article 34.</p>			
Items 11. to 16. Below concern other document(s) or information included:			
<p>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input type="checkbox"/> A FIRST preliminary amendment.</p> <p> <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</p> <p>14. <input type="checkbox"/> A substitute specification.</p> <p>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</p> <p>16. <input type="checkbox"/> Other items or information:</p>			

U.S. APPLICATION NO. 10/031863 <small>(If known, see 37 CFR 1.49)</small>		INTERNATIONAL APPLICATION NO. PCT /SE/00/00836		CASE NO.	
17. <input type="checkbox"/> The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)): Search Report has been prepared by the EPO or JPO\$890.00 International preliminary examination fee paid to USPTO (37 CFR 1.492(a)(1))\$710.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.492(a)(2)) \$740.00 Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.492(a)(3)) paid to USPTO \$1,040.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 <div style="text-align: center;">ENTER APPROPRIATE BASIC FEE AMOUNT</div>				CALCULATIONS	PTO USE ONLY
				\$890	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).					
Claims	Number Filed	Number Extra	Rate		
Total Claims	12- 20 =	0	x \$ 18.00		
Independent Claims	1- 3 =	0	x \$ 84.00		
Multiple dependent claim(s) if Applicable)			0 + \$280.00		
TOTAL OF ABOVE CALCULATIONS =				\$0	
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28)					
SUBTOTAL =				\$890	
Surcharge of \$130.00 for furnishing the English translation later than the <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f))				\$	
TOTAL NATIONAL FEE=				\$890	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31), \$40.00 per property +					
TOTAL FEES ENCLOSED=				\$890	
				Amount to be refunded	\$
				charged	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$890.00 to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. 23-1925 in the amount of \$ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 23-1925. A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status					
Send All Correspondence to: F. David AuBuchon Brinks Hofer Gilson & Lione P.O. Box 10395 Chicago, IL 60610			<div style="text-align: center;">  Signature </div> <div style="text-align: center;"> Name F. David AuBuchon </div> <div style="text-align: center;"> Registration Number 20,493 </div>		

Res'd PCT/PTO - 28 FEB 2002 #5

10/031863



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on

February 20, 2002

Date of Deposit

F. David AuBuchon

Name of Applicant, Assignee or
Registered Representative

F. David AuBuchon
Signature

February 20, 2002

Date of Signature

Our Case No. : 11302/3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Olle Olsson

Serial No. 10/031,863

Filing Date: November 2, 2001

For OPERATION DEVICE

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is a PRELIMINARY AMENDMENT to the specification of this application.

In the Specification:

Please add the following paragraph on page 1, immediately following the title "Operation Device":

This application is a nationalization of and claims priority under PCT Application No. PCT/SE00/00836 that was filed on May 3, 2000. This application was published, in accordance with PCT Article 21(2), in the English language as WO 00/66864 on November 9, 2000. PCT Application No. PCT/SE00/00836 claimed priority under Swedish Patent Application No. 9901600-8 that was filed on May 4, 1999.

REMARKS

A reference to the claim of priority under PCT Application No. PCT/SE00/00836, and Swedish Application No. 9901600-8 is hereby set forth on page 1, of the specification in the first sentence following the TITLE. This application was filed on November 2, 2001, and this presentation of the priority claims is thus within four months of the filing date of this application

Dated: February 20, 2002

Respectfully submitted,

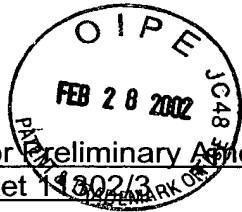


F. David AuBuchon

Reg. No. 20,493

Attorney for Applicant

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P.O. BOX 10395
Chicago, Illinois 60610
(312) 321-7738



APPENDIX for Preliminary Amendment for U.S Application Serial No. _____;
Attorney docket 11302/3

In the Specification:

Please amend page 1 by inserting the following paragraph immediately following the TITLE:

This application is a nationalization of and claims priority under PCT Application No. PCT/SE00/00836 that was filed on May 3, 2000. This application was published, in accordance with PCT Article 21(2), in the English language as WO 00/66864 on November 9, 2000. PCT Application No. PCT/SE00/00836 claimed priority under Swedish Patent Application No. 9901600-8 that was filed on May 4, 1999.

2/PKTS

Operation Device

TECHNICAL FIELD OF THE INVENTION

5 The present invention relates to a device for the operating of preferably doors, gates and such operable elements according to the type described in the introduction of claim 1.

BACKGROUND OF THE INVENTION

10 At operating devices for doors, gates and such elements, it is common to use electrohydraulic systems. If the operating device is to manage pivot operation, it is more common with an electromechanic system. Irrespective of the choice of system, problems arise when a operating device is to be mounted at an already existing operable element. The space available at, e.g., a door is a limiting factor. This may cause expensive alteration costs in order to modify the space. At production of new houses, the cost also increases when operating devices occupy space.

15

With the classification operating device for elements is referred to devices that cause doors, gates and such to move either linearly or to pivot. The devices permit left hung or right hung elements, outer elements or inner elements and the devices may be placed on optional side of the element.

20

The patent specification GB 1 406 126 shows an electrohydraulic door opener and the object of the invention is to make a space-saving and handy device. The door opener comprises a combination of a hydraulic motor, a hydraulic fluid tank, a motor driven hydraulic pump and hydraulic lines, which together form a closed hydraulic circuit/loop. A rotating motor drives
25 or operates the pump. In order to save space, a spring housing 14 is also utilized as a hydraulic fluid tank.

30

The patent specification US 4 333 270 shows an electromechanic door opener. The object of the invention is to make a door opener, which is cheap to manufacture and which fits for different types of pivoting doors. Furthermore, the object is to make a door opener that, among other thing, has a long service life. The solution is based on a construction that, among other things, contains a rack and a gear-wheel. It does not contain any hydraulics.

Problems arise when the operating device should be inexpensive to manufacture and to operate and quiet. The electrohydraulic systems contain numerous and expensive components and are thereby expensive to manufacture. Installed electrohydraulic systems are energy-demanding and thereby expensive to operate. Also electromechanical systems contain many expensive components and are thereby also expensive to manufacture. Installed electromechanical systems are expensive to operate because of the high energy-demanding friction always inherent in mechanical constructions. Hydraulic pumps as well as mechanical transmissions generate noise that in the long run may be perceived as disturbing.

- 10 On production of operating devices of the above-mentioned type, the need thereby arises to manufacture devices consisting of a few inexpensive components and which devices, ready-made and mounted, are silent and inexpensive to operate. The operating device should be a small, compact constructional solution, which does not demand any large mounting space.
- 15 None of the operating devices, which are shown in the stated patent specifications, can meet this need.

SUMMARY OF THE INVENTION

- 20 On designing operating devices for moveable elements, according to the invention, the designing is to be such that the device includes a few inexpensive components only and that the completed device is not energy-demanding on operation. Furthermore, the object of the invention is that the device is to be a small, compact and easy-to-mount device working at a very low sound level.

- 25 The operating device according to the invention should be able to be used generally, regardless if the element should be manoeuvred by linear or rotary motion. It is to withstand an exposure to overload and allow also manual operation. In certain environments, it is furthermore necessary that the device has self-closing function.

- 30 The trend of operating devices for elements of the present kind is towards more flexible systems, with the device being a standard component. The customer may then decide where and how the device shall be mounted and operate.

In the light of the above-mentioned needs, a operating device should be designed so that it is simple to install and fits for mounting and operation at hinges, butt hinges or at a distance from the hinges, at either end of the element to be operated.

- 5 The object of the present invention is thereby to bring about a operating device which fits for most applications, is silent and demands neither large space nor high energy. It should work, for instance, on evacuation situations by permitting opening / closing at power failure.

The solution according to the invention is a operating device, which includes a driving device,
10 arranged adjacent to a closed casing or house. The house is connected to at least one operable element. The transmission of power from the driving device to the operable element to be operated goes via the closed house. The driving device is connected to and drives a first piston means , which is displaceably arranged inside the house. A second piston device is dis-
15 placeably arranged inside the house at a distance from the first piston device. Inside the closed house, a space is provided by the opposing pressure areas of the first and second piston-like parts and the inner wall of the house. This space is filled with a pressure force-transmitting fluid, which gives a simple, cheap, disengageable and noiseless force transmission. Since the construction works with low friction, the driving device may be a relatively weak motor, i.e. a proportionately small motor. The entire operating device may be housed in a tubular part.

20

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be explained closer by description of an embodiment example with reference to the accompanying drawing, where

- 25 fig 1 shows a operating device for the operating of an element according to the invention. Fig 2 shows an alternative embodiment where the operating device is arranged with an electrically controlled valve.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

The invention relates to an operating device 1 (fig 1) which comprises a driving device 2 in the form of a speed controlled, alternatively non-speed controlled, suitably reversible electric motor arranged directly adjacent to a closed case or house 3. The drive shaft of the electric motor includes a screw and nut device 4-5, for instance a self-locking ball screw, which sealingly extends into the closed house 3. Thereby, a relatively small electric motor may be selected. Inside the closed house 3, the drive shaft / ball roller screw 4 co-operates with a first piston-like part / nut device 5, which is displaceably arranged inside the house 3. A second piston-like part 6 is displaceably arranged inside the house 3 against the action of a spring 14 at a distance from, and suitably coaxially with, the first piston-like part 5. Thereby, a closed volume 7 is provided, which is limited by the inner wall 8 of the house 3 and the opposing end areas 9 and 10 of the first 5 and second 6 piston-like parts, respectively. The volume 7 is filled with a pressure-transmitting medium 11. In figure 1, the closed house 3 consists of two cylindric portions 12, 13 having different diameters. The portion 12 with the smaller diameter may be regarded as one pump cylinder and the first piston-like part 5 is then a pump piston. The incompressible fluid 11 works as a pump fluid. The portion 13 of the house 3 with the larger diameter may thereby be regarded as a slave cylinder or actuator containing the second displaceable piston-like part 6, which is arranged prestressed by a spring. The space between the slave cylinder and the pump cylinder is provided by the opening 14 between the cylinders.

The electric motor 2 is arranged to drive the first piston-like part 5 in two opposite directions. When the electric motor 2 drives the pump piston 5 forwards, in the left direction in fig 1, the pump piston 5 presses against the incompressible fluid 11 and transmits a compressive force which acts on the second piston-like part 6. The compressive force from the incompressible fluid 11 acts on the second piston-like part 6 in the direction towards the spring-prestressing force from a spring device 14. When the driving device 2 via the incompressible fluid 11 has generated a compressive force, on the second piston-like part 6, which exceeds the back-pressure power from the screw spring 14a, a displacement of the second piston-like part is carried out in the left direction in fig 1.

The second piston-like part 6 consists of a hollow piston slotted from one end (not shown) with a rack 15 fixedly arranged on the inside 16 of the piston. The rack 15 is parallel to the direction of motion of the piston 6 and the teeth are formed in a direction, at an angle with the longitudinal direction, preferably a right angle to the longitudinal direction. The rack 15 co-

operates with a gear-wheel 17, which is arranged on a shaft 18 rotatably mounted in the house 3 and extending through the slotted piston 6. The shaft 18 is arranged perpendicularly to the direction of motion of the piston 6 transverse through the piston and is thus rotatably received in the surrounding cylinder wall, i.e. the wall of the closed house 3. The opposite end 20 of the shaft passes through a sealed bearing hole in the surrounding cylinder, i.e. the wall of the closed house, and forms exterior drive shaft 20, with, for instance, splines. The outer drive shaft 20 is connected to a transmission, for instance an arm, which transmits a linear or rotary motion to an element (not shown) to be operated.

10 The screw 4 runs in the cylinder 5, e.g. in a recess or a bottom hole, and a driving nut 5a is mounted in the piston end adjacent the motor. The extension along the screw 4 of the driving nut 5a is small in comparison with the piston 5. By the fact that the contact surface between the screw 4 and the piston 5 thereby becomes relatively small, the friction will be low.

15 On displacing the second piston-like part 6 in the direction to the left in fig 1, the rack 15 is displaced in the same direction, and thereby both the gear wheel 17 and the outer drive shaft end 20 are rotated anti-clockwise in fig 1.

20 When the electric motor 2 moves the pump piston 5 back, in the direction to the right in fig 1, the pressure of the incompressible fluid 11 on the second piston-like part 6 decreases. When the pressure goes below the preset force of the spring, the spring 14a acts on the piston 6 and moves it in the direction to the right in fig 1.

25 On displacing the second piston-like part 6 the right in fig 1, the rack 15 is displaced in the same direction, and thereby both the gear wheel 17 and the outer drive shaft / driving nut 20 are rotated clockwise in fig 1.

30 The outer end 20 of the drive shaft may thereby transmit rotary motions so that an element (not shown) is moved either to the right or to the left, or rotates clockwise or anticlockwise, respectively. The transmission ratio may be chosen suitable for the application thereof. Also the requisite pressure may be changed / chosen after application.

It is also simple to adjust the length of stroke for an operable element at both for normal and emergency opening operations.

ALTERNATIVE DESIGNS

The driving device is an electric motor in the embodiment example, but it may also be
5 another, preferably rotating, driving means.

The first and the second piston-like part may be arranged with parallel shafts and may also be
arranged so that the shafts form an angle with each other. The piston-like parts can also be
arranged in parallel to each other, side by side. In such cases, the house or space becomes a
10 straight / angled / curved room.

The space beyond the slave cylinder, counted from the driving device in the shown embodi-
ment example, is empty but may also contain oil.

15 The screw-nut device may be of non-self-braking type and the force of the spring used for
closing the door. This means that the device is self-closing at power failure.

In the shown embodiment example, the manoeuvring is carried out with a speed controlled
driving device, but it is also possible to adjust the speed of the element by means of
20 conventional control or check valves.

The first piston device may be formed as a bellows.

The operating device may be arranged to simultaneously bias or operate a plurality of
25 elements, for instance wing doors. It may also be arranged with more than one closed house in
order to drive a plurality of elements at the same time.

A safety valve may be arranged so that on overloading the fluid can flow out into an adjacent
space. An alternative is to built-in weak sections at the device, adapted to on overload.
30

In order to make it possible to return an element to the start position on power failure, an
electric current-controlled valve 21 may be arranged in the wall of the house. At power fail-
ure, the valve opens and fluid may thereby flow out in an adjacent space 22, the compressive
force / back pressure from the incompressible fluid 11 on the second piston-like part 6

decreasing / ceasing, and thereby the spring-prestressing force of the spring 14a may push the piston 6 in the direction to the right in the figure, a connected element returning to the starting position, e.g. a door is closed. In doing so, the device has to be dimensioned in such a way that the first piston-like part never mechanically blocks the second piston-like part from being
5 displaced back to the starting position.

In order for the device to be able to be operated manually at power failure, an electric current-controlled valve 21 may be arranged in the wall of the house. At power failure, the valve opens, if required, and fluid may thereby flow in from an adjacent space (not shown). A con-
10 nected element is transported manually, the second piston-like part being displaced in the direction to the right in the figure. The manual operating requires a force exceeding the set force of the spring 14a. Furthermore, fluid has to flow into the house 3 from an adjacent room / reservoir (not shown) at the displacement of the second piston-like part 6.

15 It is important that the electric current-controlled valve never is obstructed by any of the piston devices. Therefore, it is placed in the house wall, between the piston-like parts, but outside the range of movement of these parts along the inner wall 8.

The adjacent room 22 to which fluid flows or from which fluid flows may be arranged in
20 various ways. It may, e.g., be an open vessel, a pressure accumulator or it may contain a piston prestressed by a spring. The room 22a may be provided by arranging the closed house with double walls, where the valve is arranged in the inner wall. The room may be filled with a suitable quantity of gas.

25 An operating device self-closing at power failure requires that the room, irrespective of the design, has a volume that at least equals the displacing volume of the second piston-like part.

An operating device manually openable at power failure requires that the room, irrespective of design, has at least a volume that equals the double displacing volume of the second piston-
30 like part.

CLAIMS

1. Operating device for doors, gates and such elements (1) including a driving device (2), at least one closed house (3), a first piston-like part (5) and a second piston-like part (6), which parts are displaceable inside the house (3), where the first and second piston-like part are
5 arranged at a distance from each other inside the house, where the driving device (2) is arranged to displace the first piston-like part (5) inside the house and the second piston-like part (6) being connected to a operable element characterized in that a volume (7) formed in the closed house (3), between the first (5) and the second (6) piston-like part, is filled with a compressive force transmitting medium.
- 10 2. Operating device according to claim 1 characterized in that an electric current-controlled valve (21) is arranged in the wall of the house 3.
3. Operating device according to claim 2 characterized in that the electric current-
15 controlled valve (21) is located in the wall of the house (3), between the piston-like parts but outside the range of movement of these parts along the inner wall 8.
4. Operating device according to claim 1 characterized in that the first (5) and second (6) part are coaxially arranged in relation to each other.
- 20 5. Operating device according to claim 1 characterized in that the force-transmitting media (11) consists of a substantially incompressible fluid.
6. Operating device according to claim 1 characterized in that the second piston-like
25 part (6) is displaceable against the effect of a spring device (14) arranged in the house.
7. Operating device according to claim 6 characterized in that the spring device (14) is a screw spring (14a).
- 30 8. Operating device according to claim 1 characterized in that the driving device (2) is an electric motor, the drive shaft of which is drivingly connected to the first piston-like part.
9. Operating device according to claim 1 characterized in that the driving device (2) is arranged to drive the first piston-like part (5) in two opposite directions.

10. Operating device according to claim 1 c h a r a c t e r i z e d in that the second piston-like part (6) is connected to an element, which is to be operated, via a transmission.

5 11. Operating device according to claim 8 c h a r a c t e r i z e d in that the transmission gives the element a linear motion.

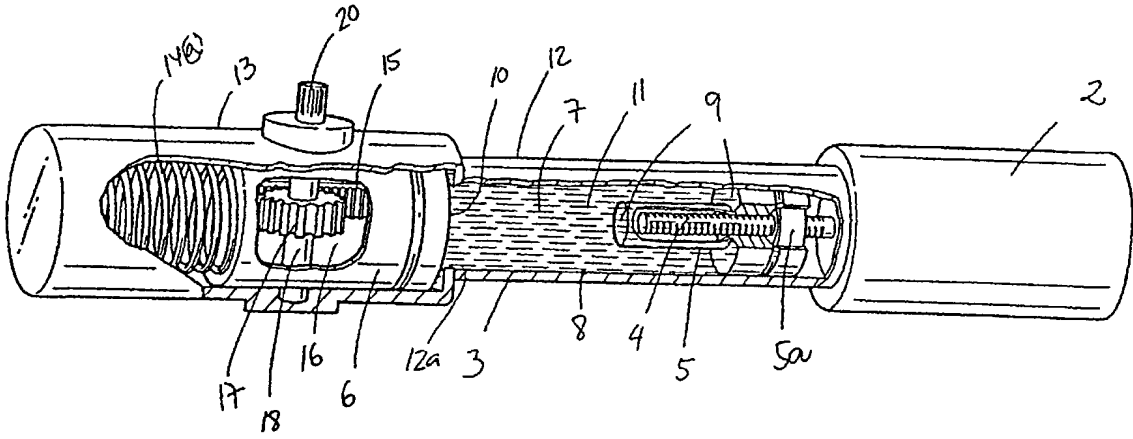
12. Operating device according to claim 8 c h a r a c t e r i z e d in that the transmission gives the element a rotary motion.

PCT

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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : E05F 3/00, 15/02, 15/10, F15B 7/00, 15/18		A1	(11) International Publication Number: WO 00/66864 (43) International Publication Date: 9 November 2000 (09.11.00)
(21) International Application Number: PCT/SE00/00836 (22) International Filing Date: 3 May 2000 (03.05.00) (30) Priority Data: 9901600-8 4 May 1999 (04.05.99) SE (71) Applicant (for all designated States except US): BESAM AB [SE/SE]; Box 131, S-261 22 Landskrona (SE). (72) Inventor; and (75) Inventor/Applicant (for US only): OLSSON, Olle [SE/SE]; Box 131, S-261 22 Landskrona (SE). (74) Agents: URBAN, Petré et al.; AB Stockholms Patentbyrå, Zacco & Bruhn, Box 23101, S-104 35 Stockholm (SE).			(81) Designated States: AE, AG, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, DZ, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report. In English translation (filed in Swedish).
(54) Title: OPERATION DEVICE			
			
(57) Abstract <p>The invention relates to a device for opening of doors. Electromechanical systems contain many expensive components and are thereby expensive to manufacture. Installed electromechanical systems are expensive in operation by virtue of the high and energy-demanding friction which always are present in mechanical constructions. The present operating device is less energy-demanding by the formed transmission of power via two piston-like parts (5 and 6). A driving device (2) is arranged to drive the piston-like part (5) and the second piston-like part (6) is connected to an operable element.</p>			

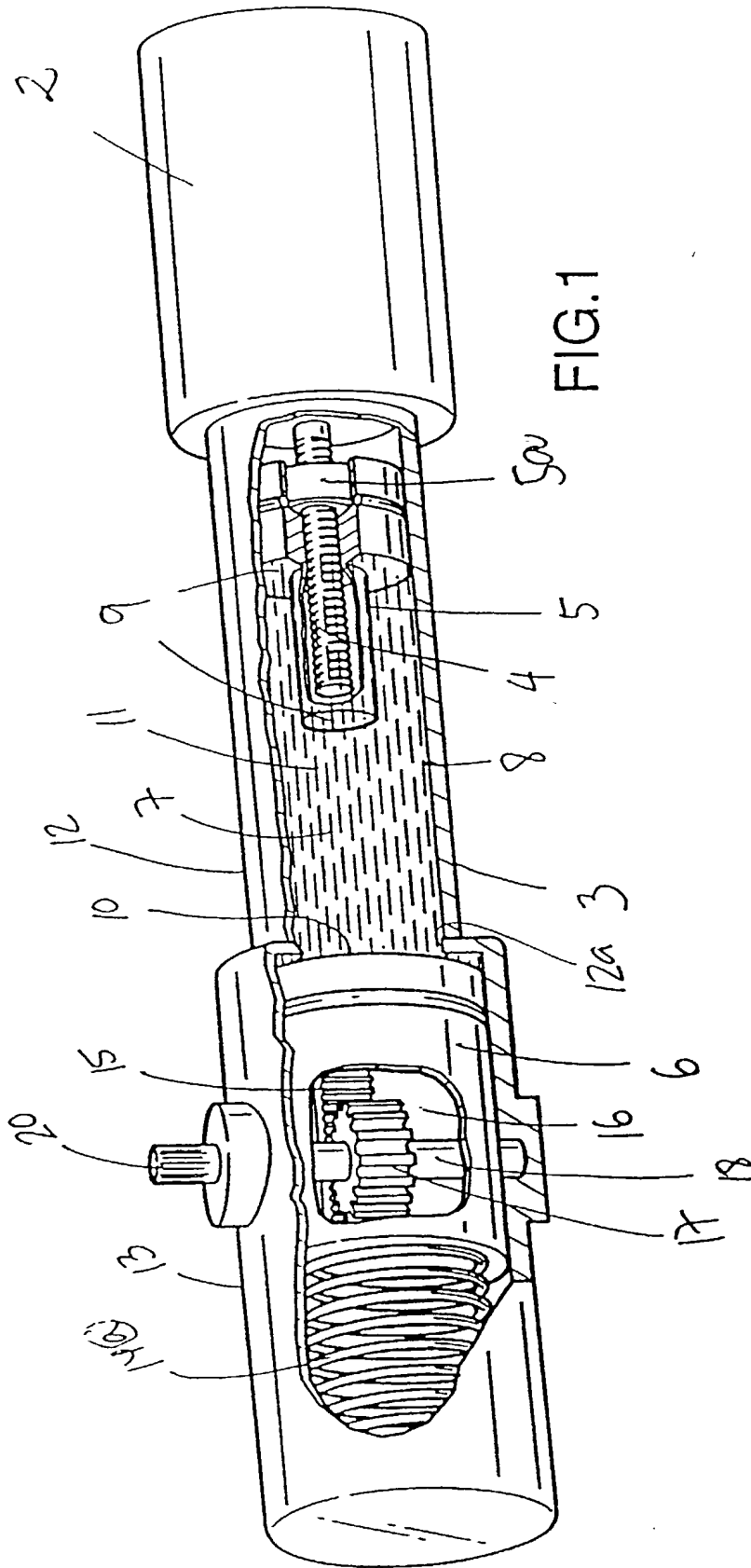


FIG. 1

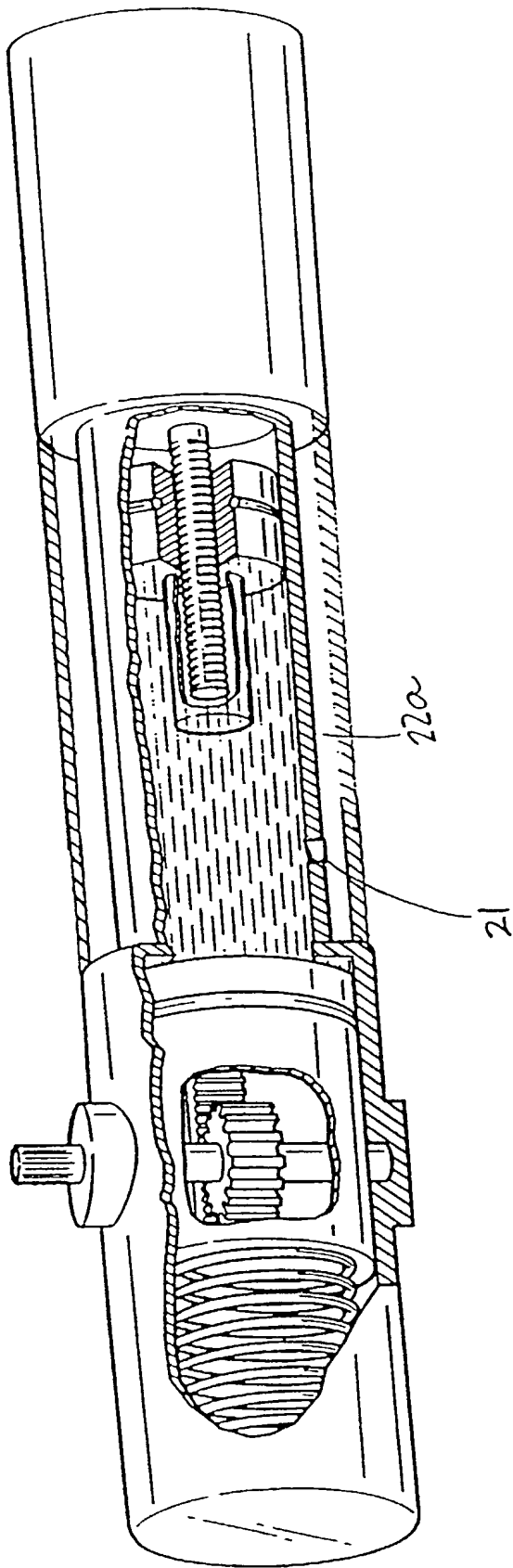


FIG. 2

#6

Case No. 11302/3

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled Operation Device, the specification of which:

- ☐ is attached hereto.
- ☒ was filed on November 2, 2001 as Application Serial No. 10/031,863.
- ☒ and was amended on February 20, 2002 (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed
No. 9901600-8	Sweden	4/5/1999	<input checked="" type="checkbox"/> <input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	Yes No

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)	(Filing Date)
I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:	

PCT/SE00/00836	May 3, 2000	Completed
(Application Serial No.)	(Filing Date)	(Status-patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

1-00
Inventor's Signature
Full name of sole or first inventor
Residence
Citizenship
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Date: 2002-04-18

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Chicago, IL 60610
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Inventor(s): Olle Olsson
 Title: Operation Device

POWER OF ATTORNEY

The specification of the above-identified patent application:

- ☐ is attached hereto
☒ was filed on November 2, 2001 as application Serial No. 10/031,863

I hereby revoke all previously granted powers of attorney in the above-identified patent application and appoint the following attorneys to prosecute said patent application and to transact all business in the Patent and Trademark Office connected therewith:

3
 F. David Aubuchon, 20,493
 Richard K. Clark, 40,560
 David Okey, 42,959

Please address all correspondence and telephone calls to F. David Aubuchon in care of:

Brinks Hofer Gilson & Lione
 P.O. Box 10395
 Chicago, IL 60610
 (312)321-4200

The undersigned hereby authorizes the U.S. attorneys named herein to accept and follow instructions from Maria Lennung as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney and the undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorneys named herein will be so notified by the undersigned.

BESAM AB, a corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

- ☒ An assignment from the inventor(s) of the patent application identified above, a copy of which is attached hereto.
 OR
☐ An assignment from the inventor(s) of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel _____, frame _____.
 OR
☐ A chain of title from the inventor(s), of the patent application identified above, to the current assignee as shown below:
1. From _____ To: _____
 The document was recorded in the Patent and Trademark Office at Reel _____, frame _____, or a copy thereof is attached.
 2. From _____ To: _____
 The document was recorded in the Patent and Trademark Office at Reel _____, frame _____, or a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

The undersigned has reviewed the assignment or all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature: Olle Olsson Date: 2002-04-18
 Name: OLLE OLSSON
 Title: RESEARCH MANAGER